



REMOVAL PLAN

**JEFFERSON YARD
20 JEFFERSON AVENUE
ELGIN, ILLINOIS**

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1.0 INTRODUCTION

This report was prepared by Conestoga-Rovers & Associates (CRA) and presents a Removal Plan for contaminated soil at 20 Jefferson Avenue in Elgin, Illinois (Site). The removal work will involve the excavation and off-site disposal of approximately 1,300 tons of soil contaminated with lead, Toxicity Characteristic Leaching Procedure (TCLP) lead, TCLP cadmium, polychlorinated biphenyls (PCBs), and dioxins.

2.0 BACKGROUND

2.1 SITE INFORMATION

The Site is approximately 1.3 acres and formerly operated as a non-ferrous scrap yard. A removal action was completed in 1995 when 2,600 cubic yards (CY) of contaminated soil was removed. The 1995 work is documented in a report titled: "Removal Action Completion Report" prepared by CRA, dated May 1995. After 1995, scrap operations continued until 2003 or 2004.

The Site was purchased by the City of Elgin in 2004 with plans to develop the property for possible recreational or residential use.

2.2 REMEDIAL OBJECTIVES

The United States Environmental Protection Agency (USEPA) has established the following remedial objectives for the Jefferson Yard Site:

- Total Polychlorinated Biphenyls (PCBs) 10 mg/kg
- Total Lead 400 mg/kg
- TCLP Lead 5 mg/L
- Total Cadmium 390 mg/kg
- TCLP Cadmium 1 mg/L
- Toxicity Equivalent (TEQ) Dioxin 1 µg/kg.

3.0 NATURE AND EXTENT OF CONTAMINATION

Studies completed by the City's contractor, Terracon, in 2004 through 2008 identified lead, PCB, and dioxin contamination in the building area on the north and east side of the Site (Terracon 2004 and Terracon 2008). In 2008, an USEPA contractor, Weston, collected samples from drums and soil for PCB, metals, and dioxin analyses (Weston 2008).

In the fall of 2008, three companies (Commonwealth Edison, AT&T, and Fermi Research Alliance, LLC (Fermilab) (the Group)) conducted soil sampling to further delineate the quantity of soil above remediation levels. The results of this sampling effort are documented in the report titled: "Supplemental Investigation Report" prepared by CRA and dated January 2009 (CRA 2009a).

In addition, as part of the Group effort a bench scale test was conducted by CRA to determine the optimum amount of cement needed to stabilize lead contaminated soil to levels below TCLP levels. The results of the bench scale test were presented in a CRA letter to USEPA (CRA 2009b).

Figures 3.1 through 3.7 present the PCB and total lead sampling results. CRA included sampling results obtained from previous studies on these figures. In addition, Table 3.1 presents a summary of all data which exceeded remediation criteria.

4.0 REMOVAL PLAN

The removal will involve the following steps:

1. Site facilities and controls;
2. Cleaning of concrete pad;
3. Debris removal;
4. In-situ stabilization;
5. Excavate Toxic Substance Control Act (TSCA) soil;
6. Excavate non-TSCA soil; and
7. Backfill.

4.1 SITE FACILITIES AND CONTROLS

The Site has an existing fence and buildings that were intended to limit access. In 2008, evidence of trespassers was noted on site with access to the site occurring from the north end of the Site where a building fire had occurred. On February 16, 2009 CRA inspected the Site and noted that the northern fence had been repaired and that the Site had a secure fence and locking gate.

Prior to excavation, utilities will be located and marked.

Figure 4.1 identifies the site features and layout. As shown, the majority of the Site within the fence is not subject to the removal and will serve as a support area. A contaminant reduction zone will be located in the area shown on Figure 4.1. All personnel and equipment will access the exclusion zone through the contaminant reduction zone. Equipment and personnel decontamination will occur in accordance with the Site-Specific Health and Safety Plan (HASP). The Exclusion Zone will be delineated in the field by security tape and/or spray marking on the ground.

The Site has drums believed to contain slag, ash, and magnesium turnings (Weston, 2008 page 4). Four samples from the drums were collected by Weston and the results did not show any exceedence of remediation criteria. Based on CRA's site visit, the estimated number of drums on site is more than 50. In addition to the drums, there are more than 50 compressed gas cylinders located on site. The City of Elgin has indicated that the prior owner of the property may remove the drums and cylinders before this removal action commences. If the drums and cylinders are not removed before the removal

action, under this Removal Plan, the drums and cylinders will remain on site. Drums and cylinders will be moved as needed to facilitate the cleaning of the concrete floor. Should drums break apart while being moved, the contents will be placed in a new drum and will remain on site.

4.2 CONCRETE CLEANING

The concrete area covers approximately 12,200 sq. ft., as shown on Figure 4.2. Dirt, which has accumulated on the concrete surface, is present in some areas and is less than one-half inch thick where present. In total, the volume of dirt is estimated to be less than 5 tons. Sample results show that the dirt has elevated levels of PCBs, lead, and dioxin. As such, the waste profile for the dirt matches the soil in the ES-S02 area which will be remediated by in-situ stabilization followed by TSCA disposal. For that reason, the dirt on the concrete surface will be first be swept on to the ES-S02 area (northeast corner of building area) using a rotary brush fitted on to a skid loader. Dust will be controlled by a light misting of the surface with water. After the sweeping has been completed, the concrete surface will be power washed using a low volume, high pressure spray washer. The wash water will be vacuum collected and filtered using a shop vacuum. The small volume of filtered soils will be placed into the ES-S02 area along with the floor sweepings. The filtered wash water will be combined with the decontamination liquids for later characterization and disposal.

4.3 DEBRIS REMOVAL

This task involves the removal and off-site disposal of debris which resulted from the roof collapse and fire which occurred in May 2008. Sampling conducted in November 2008 demonstrated that the debris is non-hazardous. CRA estimates the quantity of debris is 10 to 15 truck loads. The debris will be directly loaded onto trucks and hauled to a non-hazardous landfill for disposal.

This task also includes the removal of 360 sq. ft. of the concrete pad in the SB-11 area (approximately 25 tons). The concrete surface will be cleaned before removal. The concrete will be sampled during the site preparation period in order to develop a waste profile.

4.4 IN-SITU STABILIZATION

The purpose of in-situ stabilization is to eliminate the Resource Conservation and Recovery Act (RCRA) hazardous waste classification from soil which is planned for excavation. This procedure allows the soil to be managed as TSCA (if PCBs exceed 50 mg/kg) or non-hazardous waste (for soil with PCBs less than 50 mg/kg).

Four areas are designated as shown on Figure 4.3. The estimated volume of TCLP lead contaminated soil is as follows:

- ES-SO2 Area: 1100 sq. ft. by 0.5 ft deep (25 tons)
- ES-SO4 Area: 750 sq. ft. by 0.5 ft deep (37 tons)
- SB-11 Area: 360 sq. ft. by 1.5 ft deep (36 tons)
- JSS-10 Area: 800 sq. ft. by 0.5 ft deep (27 tons)

Location JSS-10 was included because of the elevated total lead levels which are expected to fail TCLP.

The treatment areas will be designated and marked in the field prior to the commencement of the work.

The only TCLP cadmium exceedence was also located in the same location as a TCLP lead exceedence (ES-SO2) and will be managed along with the TCLP lead soil.

CRA conducted a bench scale test on a 5-gallon sample collected from the ES-SO2 location. Based on the bench scale results (CRA 2009b), a 5% mixture of cement will be added to the soil. A tiller attached to a skid loader or a garden rototiller (for small areas) will be used for mixing. Confirmation samples will be collected to demonstrate that the stabilized soil is less than TCLP remediation criteria. In addition, samples will be collected at the 0.5- to 1-foot depth at ES-SO4 and JSS-10 to confirm that the TCLP exceedence is limited to the surface soil (0 to 0.5 ft depth).

After the soil has been stabilized, it will still have total lead and or PCB levels in excess of remediation criteria and will then be excavated as described in Sections 4.5 or 4.6.

4.5 EXCAVATION OF TSCA SOIL

Area and depth of soils exceeding 50 mg/kg total PCBs has been pre-defined by previous sampling and no confirmation sampling is planned. Figure 4.4 shows the TSCA excavation areas and depths which are:

- ES-SO2 Area 1680 sq. ft. x 1 ft. deep (115 tons)
- ES-SO4 Area 750 sq. ft. x 1 ft. deep (50 tons)
- JSS-10 Area 800 sq. ft x 1 ft. deep (55 tons)

The excavation areas will be designated and marked in the field prior to the commencement of the work.

The estimated amount of TSCA soil (i.e. soils with PCBs exceeding 50 mg/kg) is 290 tons. The TSCA soil will be direct loaded onto end dumps and hauled to the Environmental Quality (EQ) TSCA approved landfill located in Belleville, Michigan.

4.6 EXCAVATION OF NON-TSCA SOIL

The areas and depths of non-TSCA soils exceeding remediation criteria have been pre-defined by previous sampling and no confirmation sampling is planned. Figures 4.5 and 4.6 show the non-TSCA excavation areas and depths which will be identified in the field prior to excavation.

The excavation areas will be designated and marked in the field prior to the commencement of the work.

The estimated amount of non-TSCA soil is 1,040 tons. The soil will be direct loaded onto end dumps and hauled to a non-hazardous landfill.

4.7 BACKFILL

The excavated areas will be backfilled with clean fill and/or gravel. Fill will be placed in 12-inch lifts and compacted to 95% maximum dry density, as determined by ASTM D698.

5.0 RELATED WORK PLAN DOCUMENTS

5.1 SAMPLING ANALYSIS AND MONITORING PLAN (SAMP)

The Sampling Analysis and Monitoring Plan (SAMP) will provide procedures for sample collection, sample preservation, and laboratory analysis for confirmation sampling following the soil stabilization and excavation activities. The SAMP is provided under separate cover.

5.2 QUALITY ASSURANCE PROJECT PLAN (QAPP)

The Quality Assurance Project Plan (QAPP) will provide the data quality objectives, document control procedures, sampling protocols, laboratory procedures, QA/QC protocols, and laboratory and field measurements Standard Operation Procedures (SOP). The QAPP is provided under separate cover.

5.3 HEALTH AND SAFETY PLAN (HASP)

The HASP provides procedures to manage health and safety risks during the Removal Action and is provided under separate cover.

6.0 SCHEDULE

The work is scheduled to be completed within two months of USEPA approval and completion of an access agreement with the City of Elgin.

7.0 **REPORTING**

Upon completion of the Removal Action, a report will be submitted to USEPA. This Construction Completion Report will include a discussion of the soil quantities removed, figures depicting confirmation sample collection locations, and summary tables of confirmatory sampling results.

8.0 REFERENCES

Conestoga-Rovers & Associates (CRA). 1995. Removal Action Construction Report - Elgin Salvage and Supply Site, Elgin, Illinois. May 1995

CRA. 2009a. Supplemental Investigation Report - 20 Jefferson Avenue, Elgin, Illinois. January 2009.

CRA. 2009b. Bench Scale Stabilization Test Results - 20 Jefferson Avenue, Elgin, Illinois. February 2009.

Terracon. 2004. Comprehensive Site Investigation Report - Elgin Salvage Yard - Jefferson Site, 20 Jefferson Avenue. Prepared by Terracon for the City of Elgin. October 1, 2004.

Terracon. 2008. Tables and figures with data.

Weston. 2008. Site Assessment Report for the Elgin Salvage Site. Elgin, Kane County, Illinois. Prepared by Weston for the USEPA. June 9, 2008.

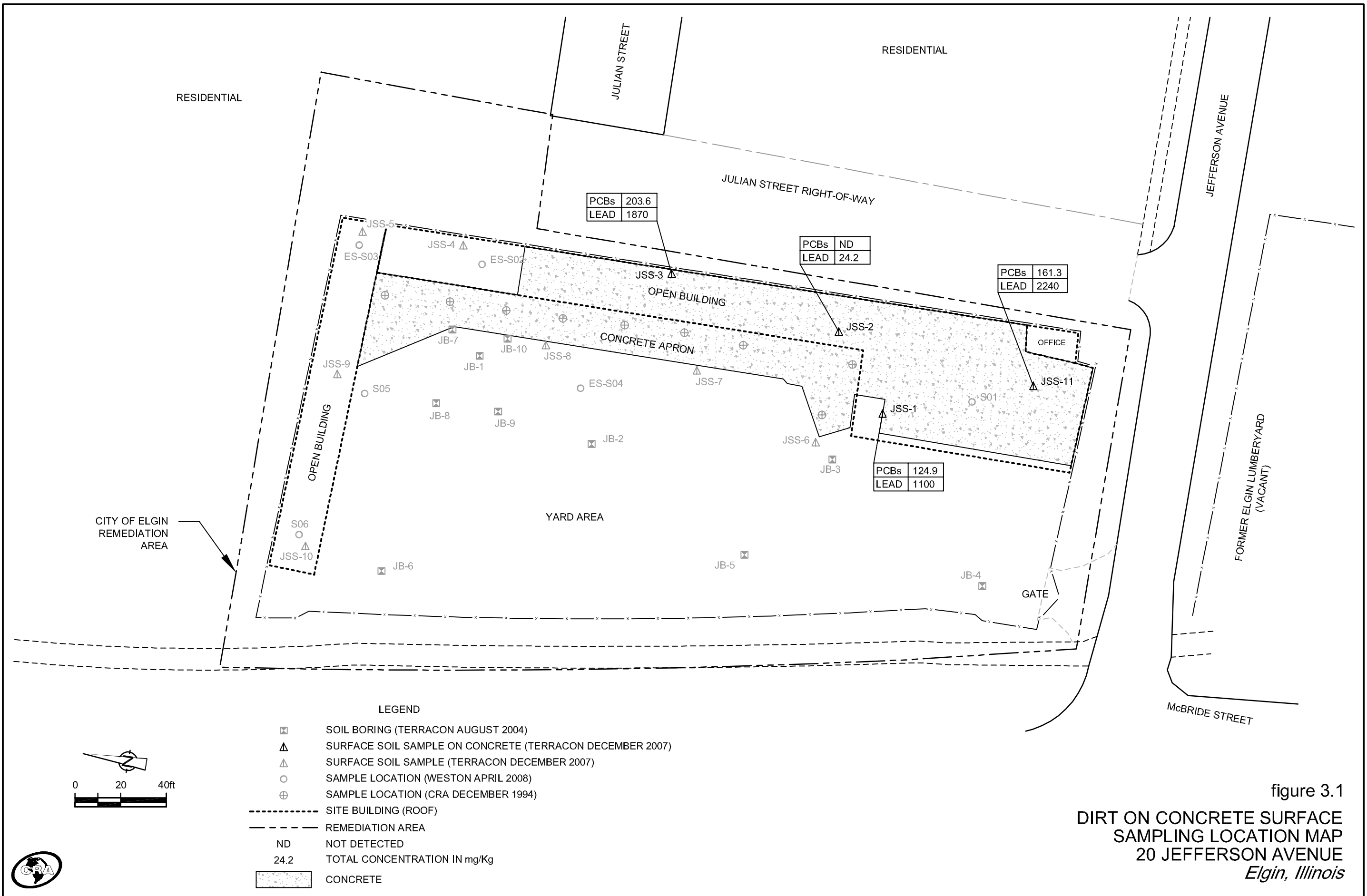


figure 3.1
 DIRT ON CONCRETE SURFACE
 SAMPLING LOCATION MAP
 20 JEFFERSON AVENUE
 Elgin, Illinois

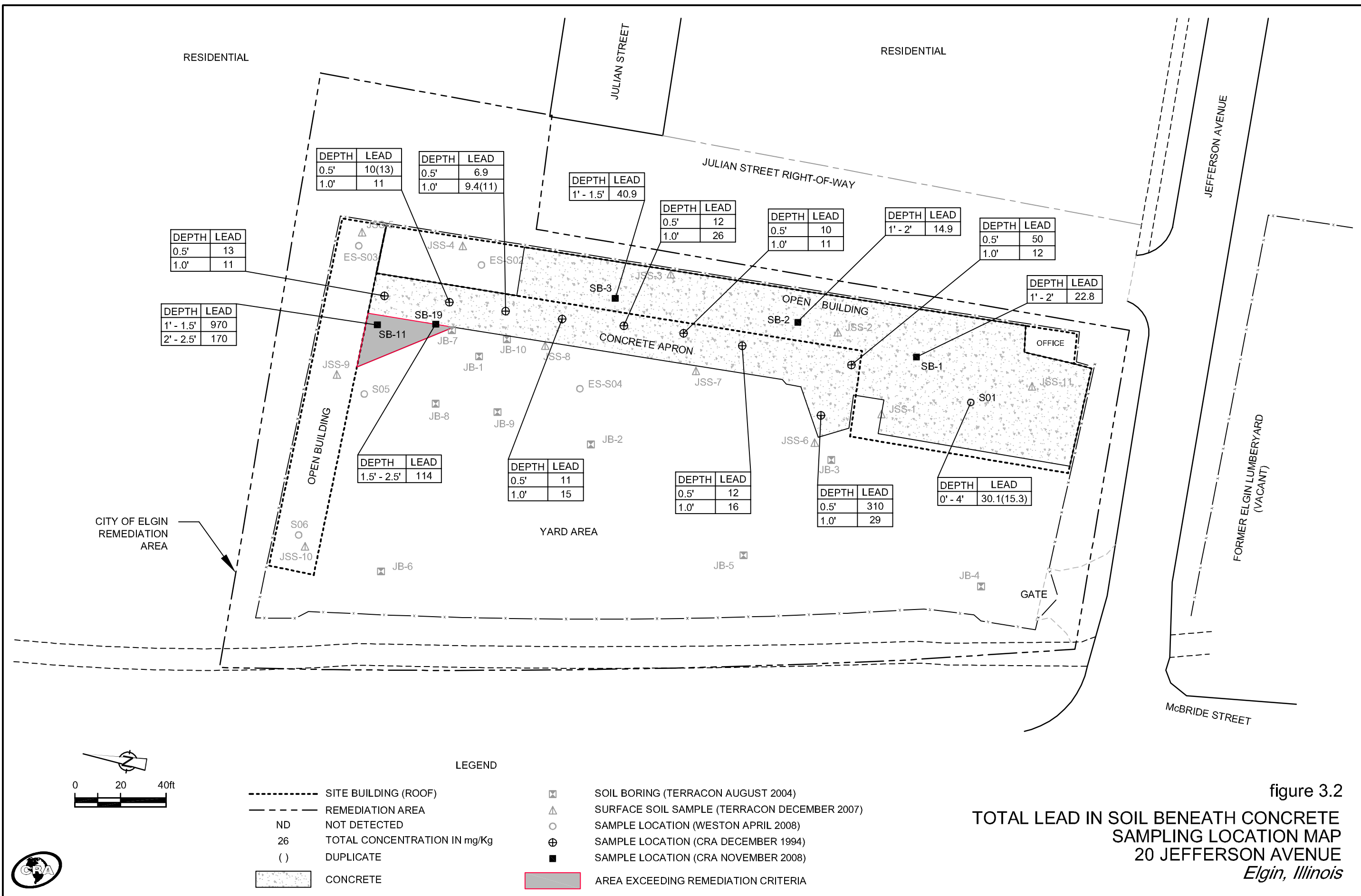


figure 3.2
TOTAL LEAD IN SOIL BENEATH CONCRETE
SAMPLING LOCATION MAP
20 JEFFERSON AVENUE
Elgin, Illinois

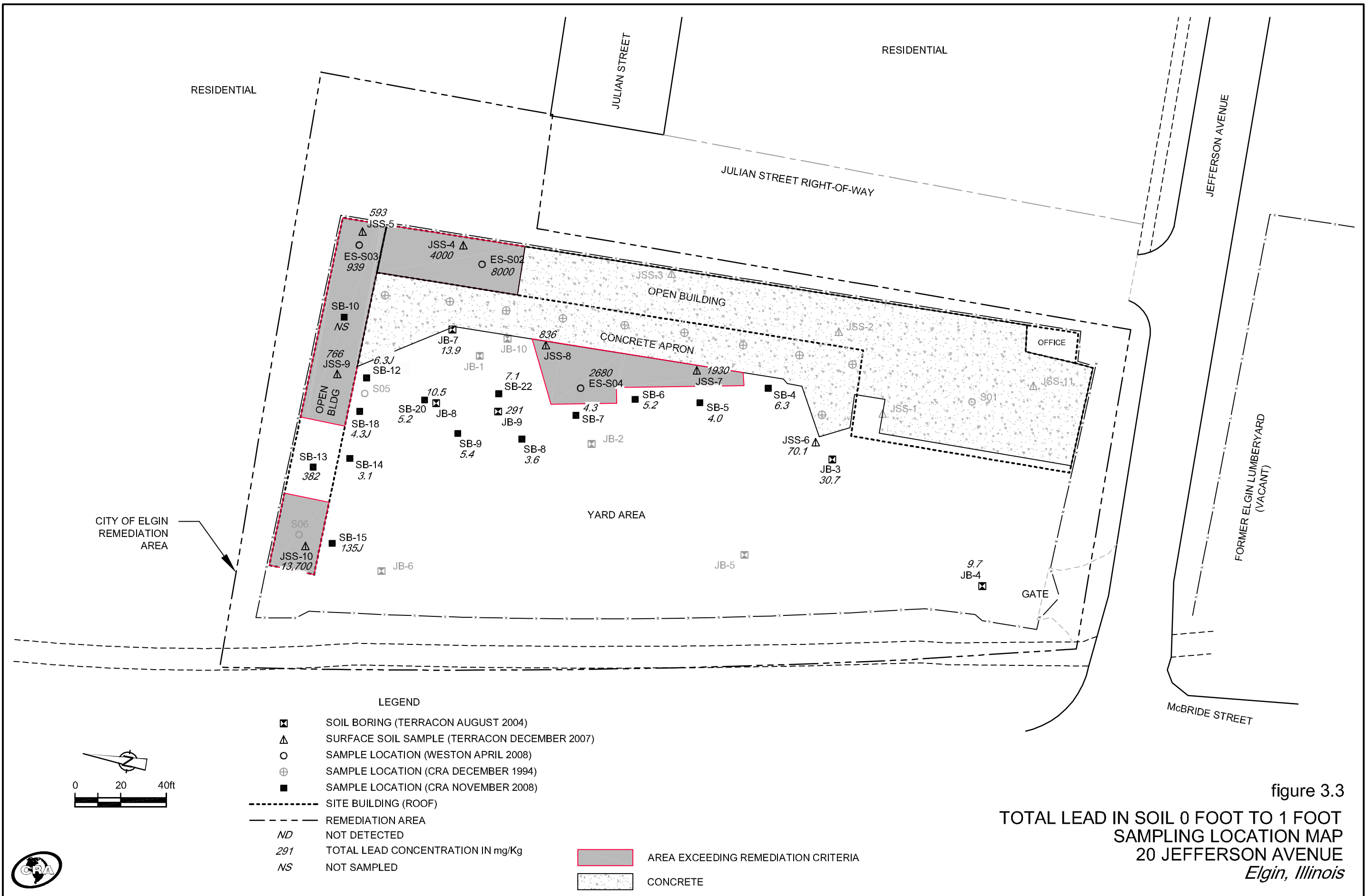
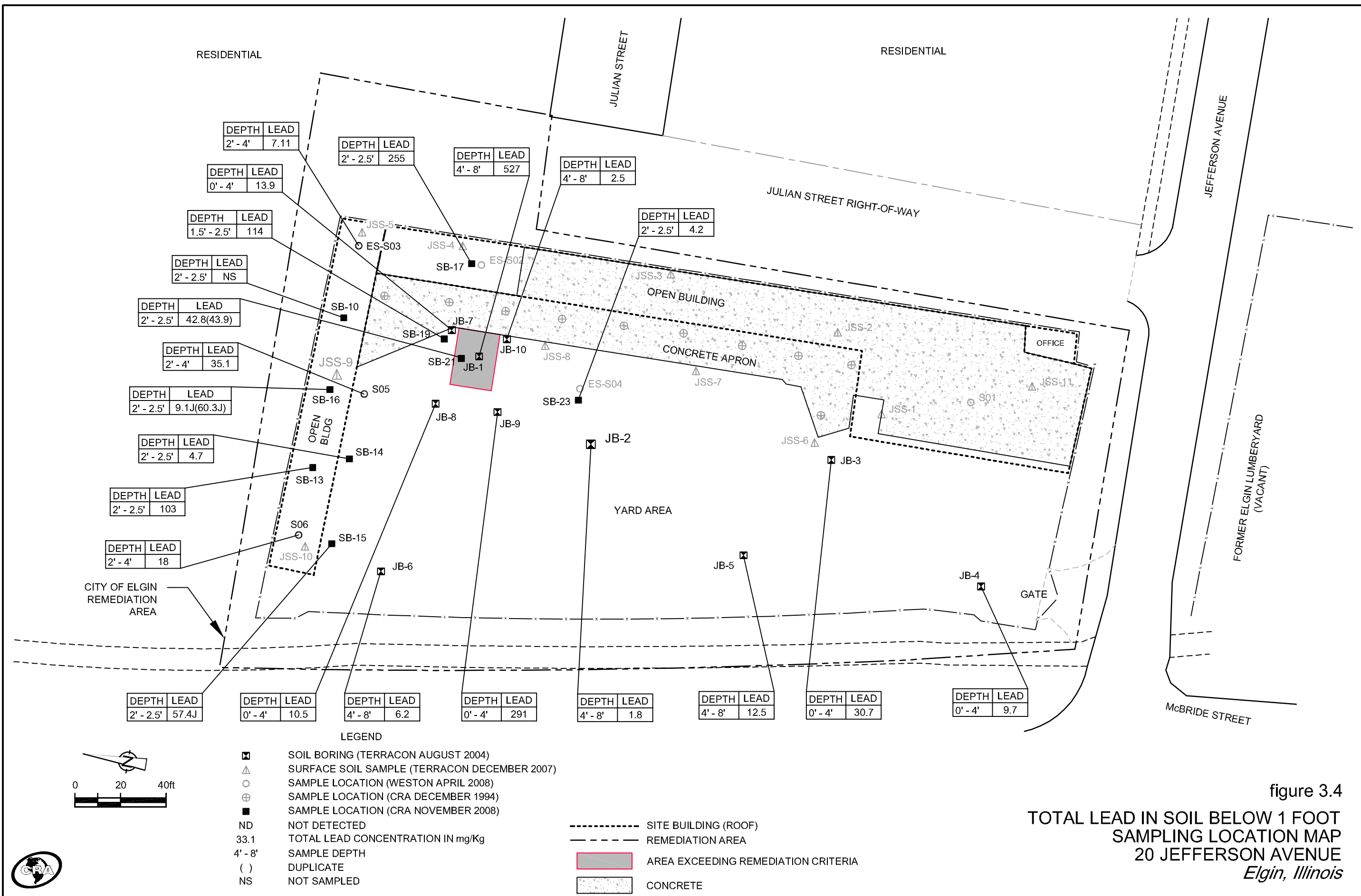
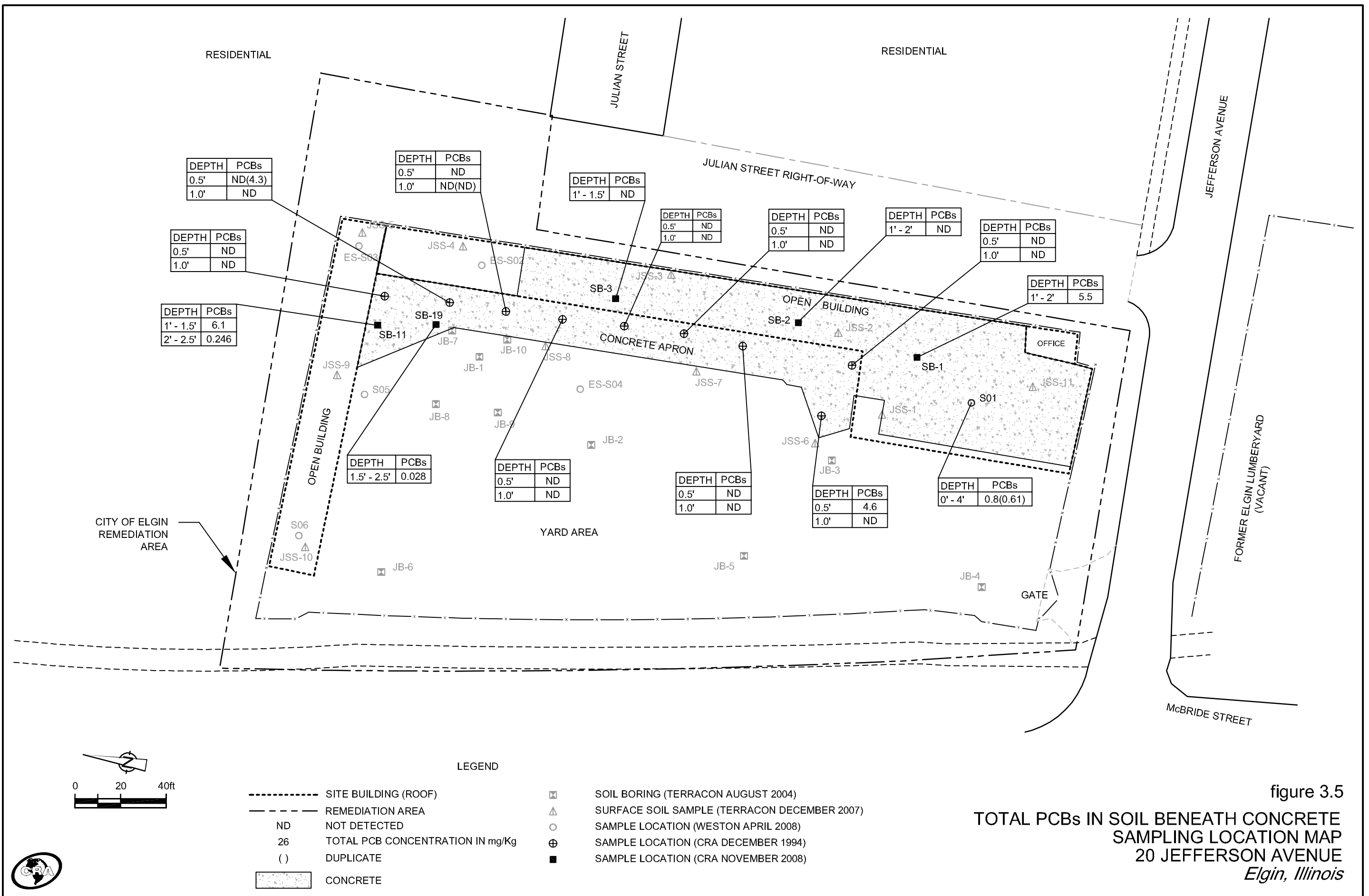
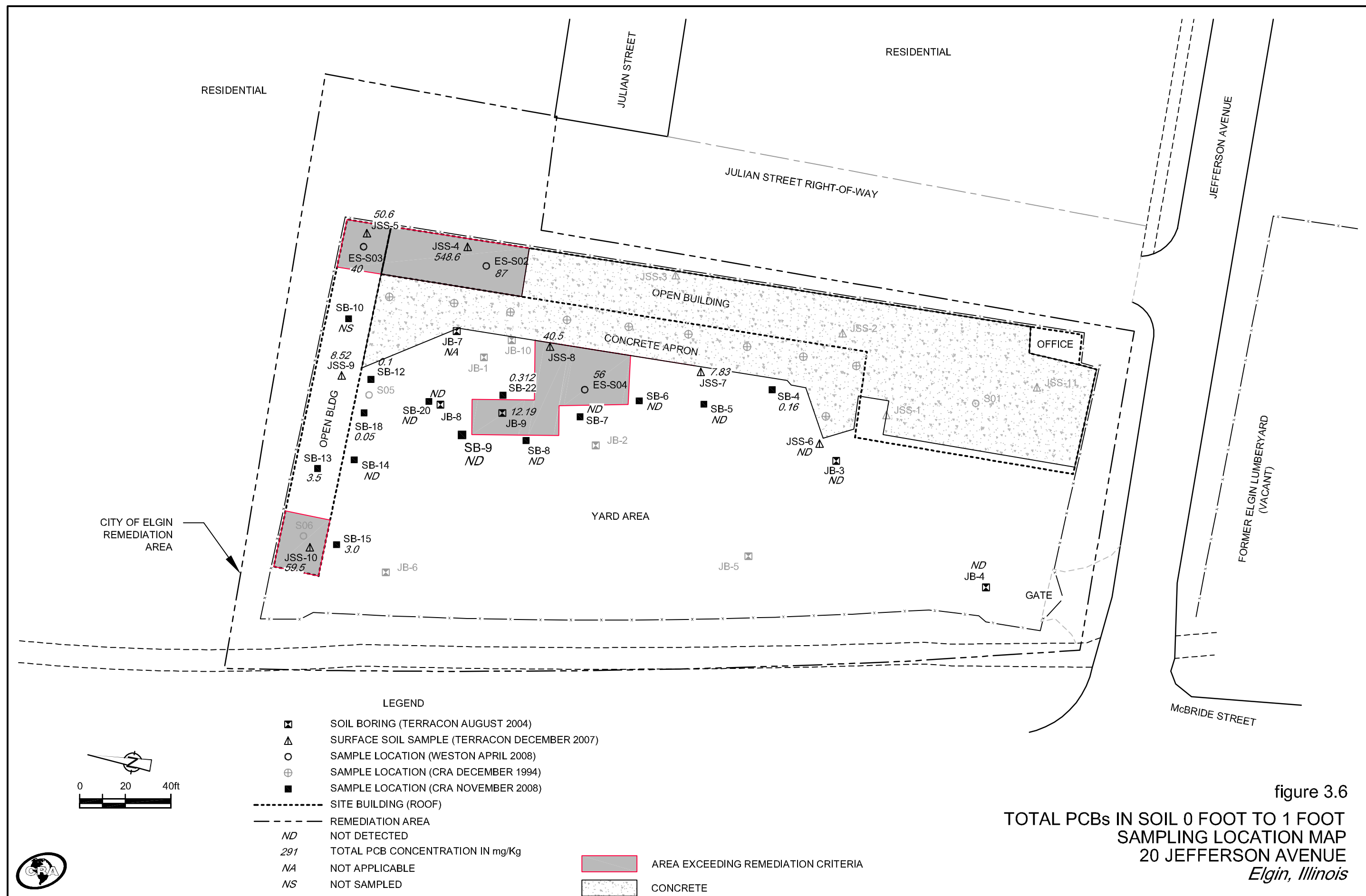
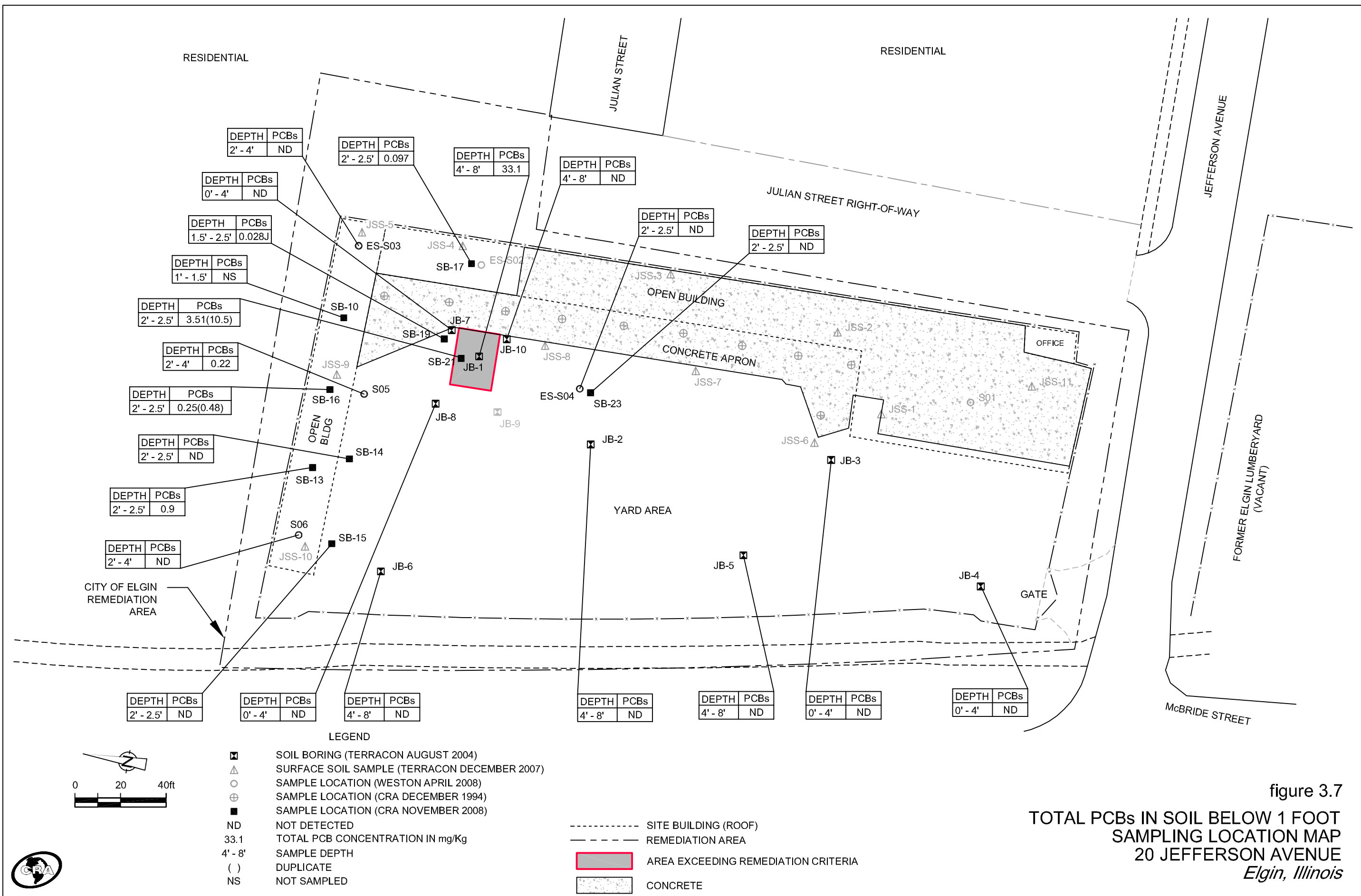


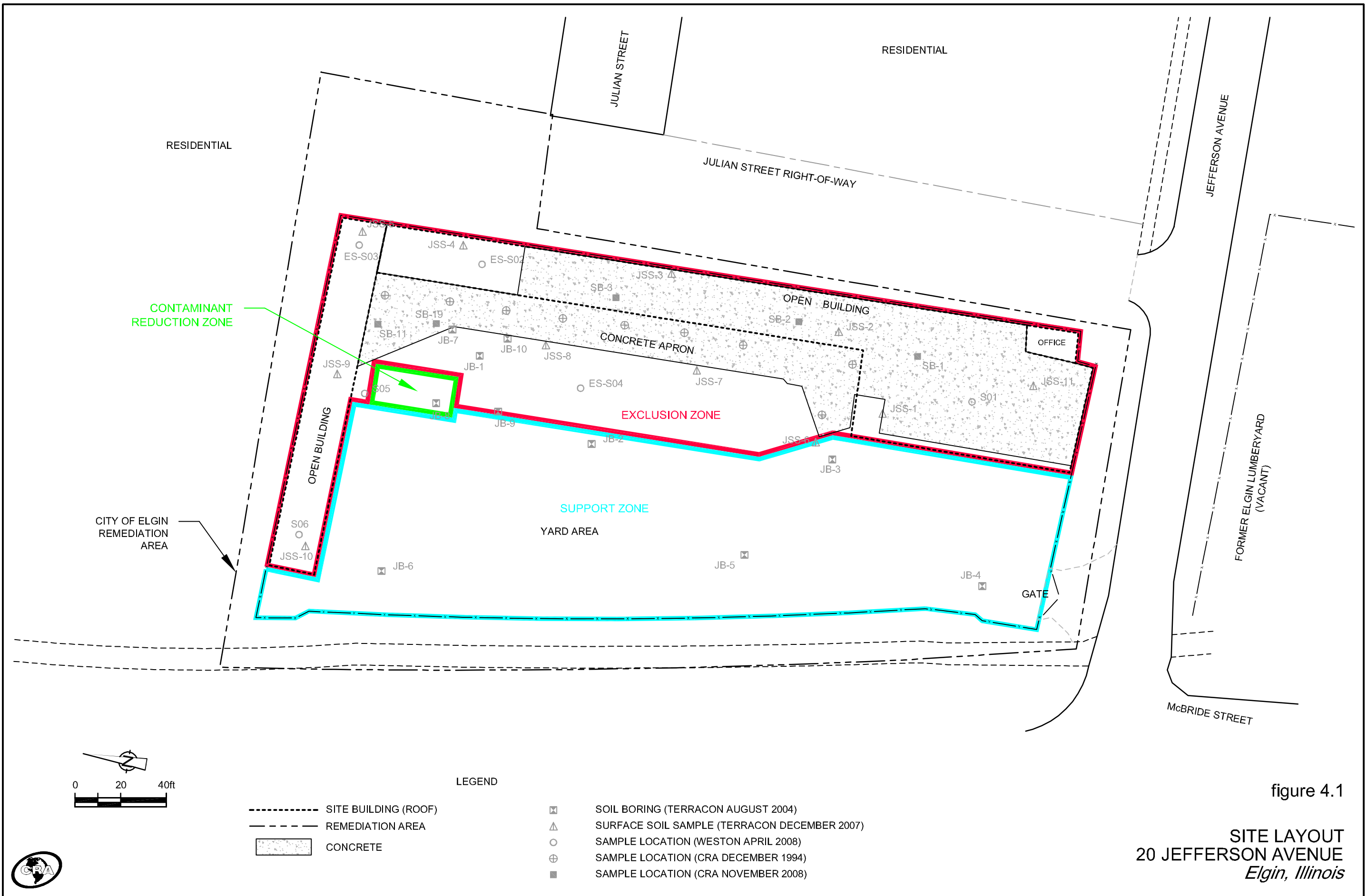
figure 3.3
 TOTAL LEAD IN SOIL 0 FOOT TO 1 FOOT
 SAMPLING LOCATION MAP
 20 JEFFERSON AVENUE
 Elgin, Illinois

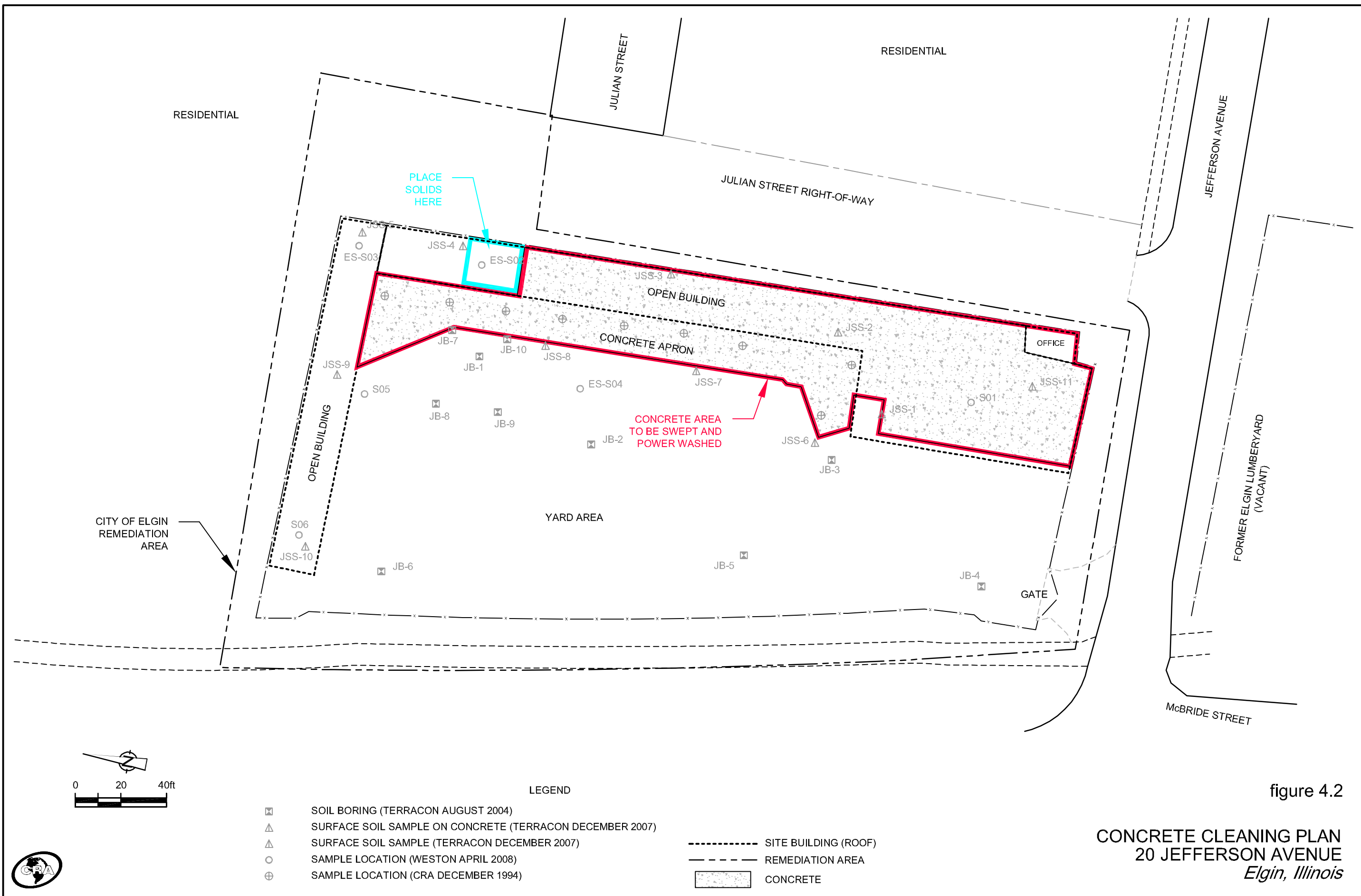












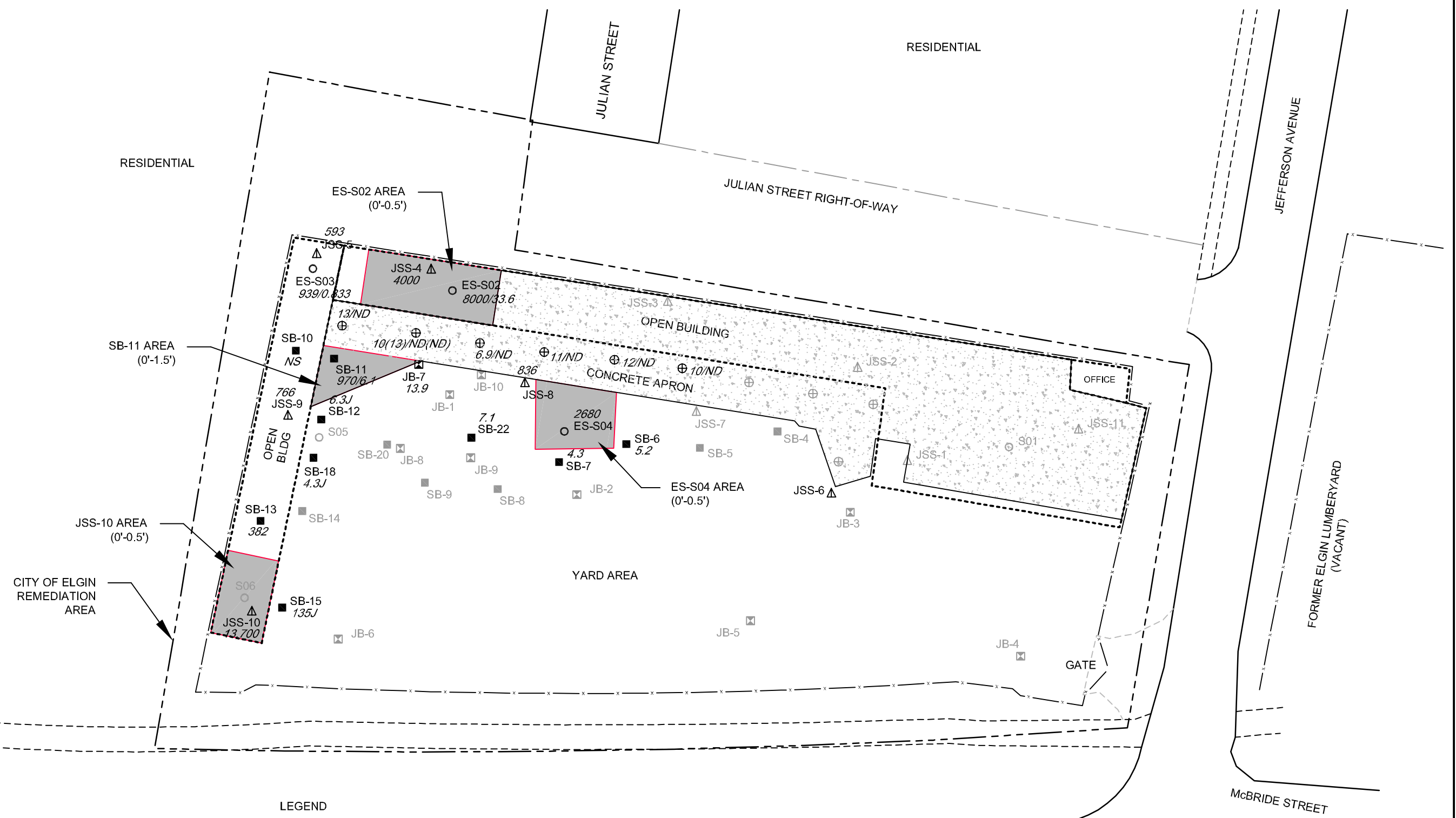
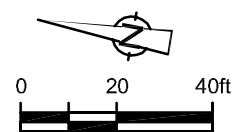
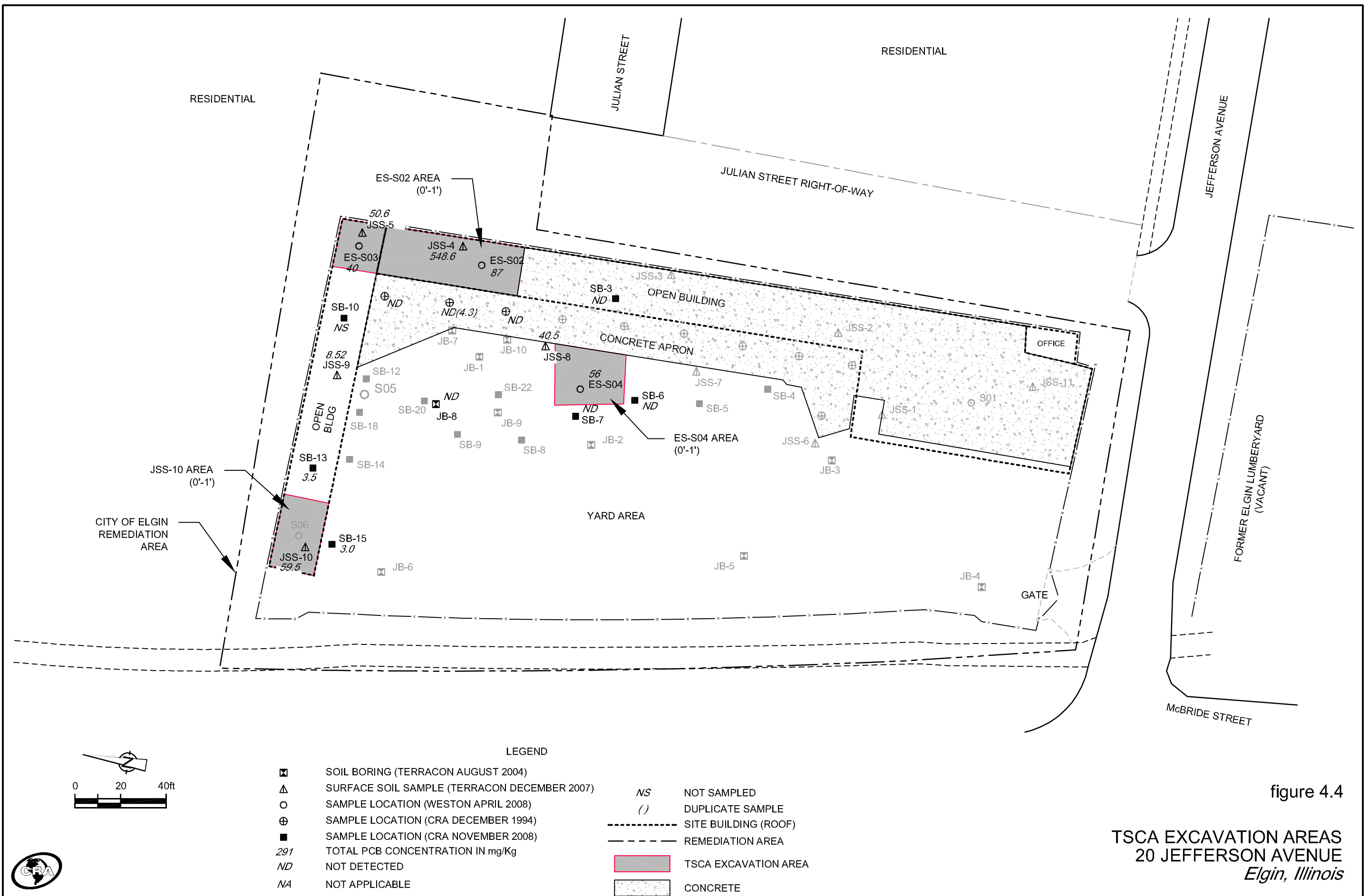


figure 4.3

SOIL STABILIZATION AREAS
20 JEFFERSON AVENUE
Elgin, Illinois



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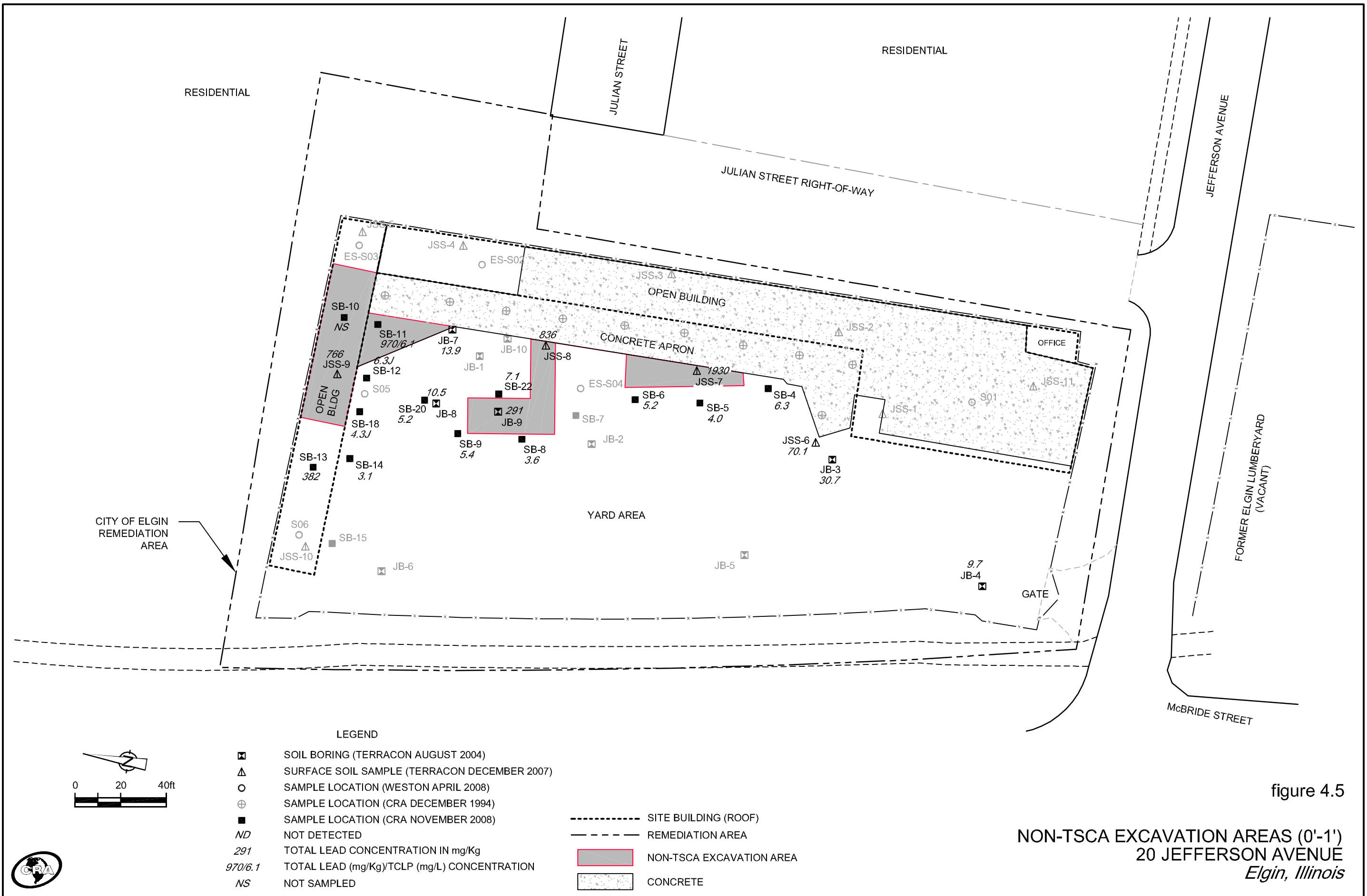


figure 4.5

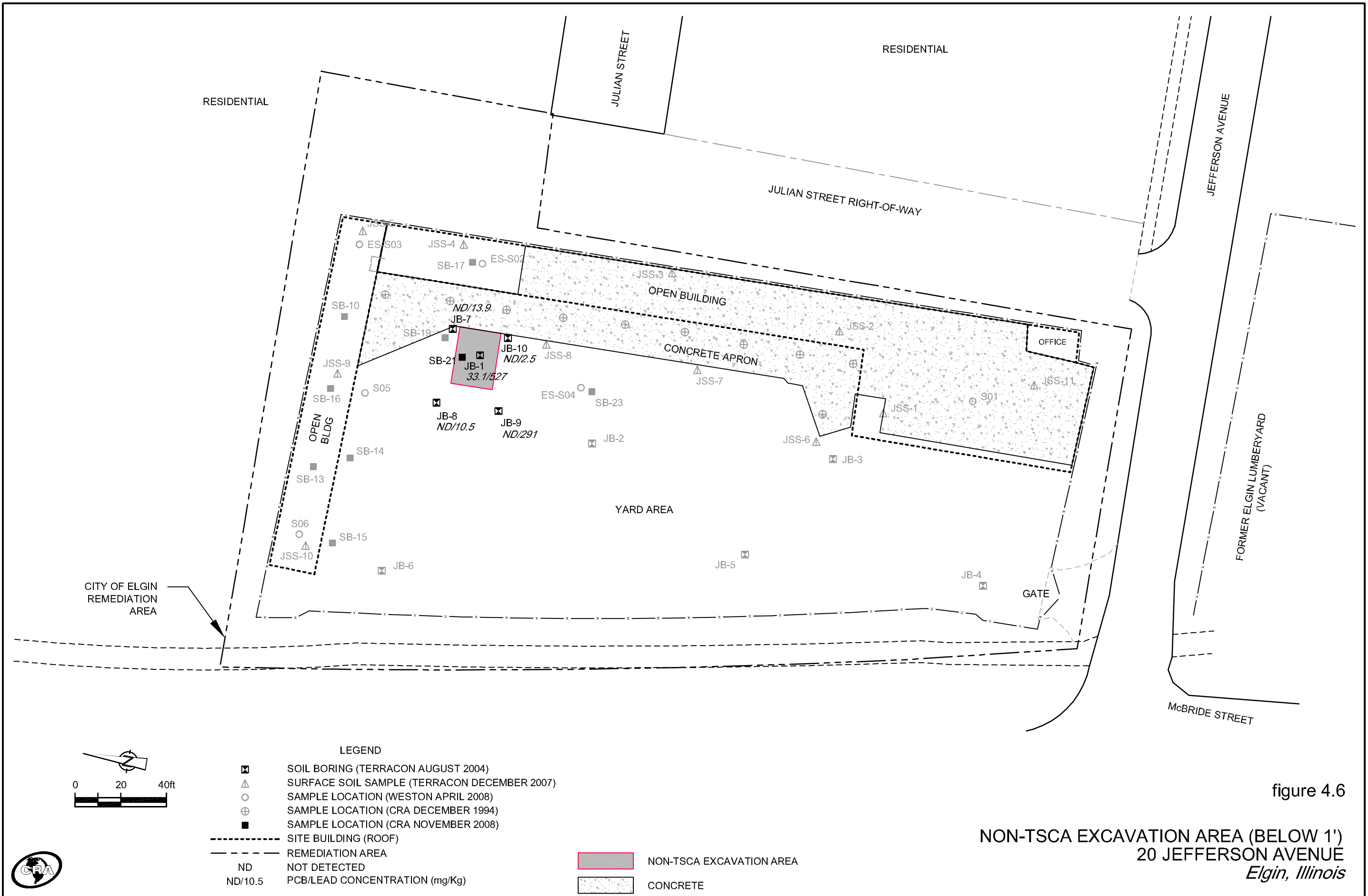


figure 4.6

TABLE 3.1
SUMMARY OF SAMPLES EXCEEDING REMEDIATION CRITERIA - ALL SAMPLING ROUNDS
20 JEFFERSON AVE. SITE
ELGIN, ILLINOIS

<i>Location</i>	<i>Date</i>	<i>Depth (ft)</i>	<i>Total PCBs (mg/kg)</i>	<i>Total Lead (mg/kg)</i>	<i>Total Cadmium (mg/kg)</i>	<i>TCLP Lead (mg/L)</i>	<i>TCLP Cadmium (mg/L)</i>	<i>TEQ Dioxin (ug/kg)</i>
Remediation Criteria			10	400	390	5	1	1
<u>2004 Terracon Investigation</u>	2004							
JB-1		(4-8)	33.1	527	55.7	<0.002	NA	NA
JB-9		(0-4)	12.19	291	4.1	NA	NA	NA
<u>2007-2008 Terracon Investigation</u>	11/07-1/08							
JSS-1			124.9	1100	25.5	NA	NA	0.66
JSS-3			203.6	1870	26.1	NA	NA	0.72
JSS-4			548.6	4000	44.3	NA	NA	NA
JSS-5			50.6	593	11	NA	NA	1.4
JSS-7			7.83	1930	11.5	NA	NA	0.110
JSS-8			40.5	836	26	NA	NA	0.420
JSS-9			8.52	766	11.9	NA	NA	0.390
JSS-10			59.5	13700	56	NA	NA	NA
JSS-11			161.3	2240	41.2	NA	NA	12.000
<u>2008 Weston Investigation</u>	04/2008							
ES-S01		(0-4)	0.8	30.1	<0.541	<0.1	<0.1	0.00664 (0.0042)
ES-S02		(0-0.5)	87	8000	23.9	33.6	0.594	1.59
ES-S02		(0-2)	7.52	136	2.45	0.176	7.06	0.052
ES-S03		(0-0.5)	40	939	16.5	0.833	<0.1	3.49
ES-S04		(0-2)	56	2680	25.2	26.1	0.357	3.54
<u>2008 CRA Investigation</u>	11/2008							
SB-11		(1-1.5)	6.1	970	14.6	6.1	0.18	0.11J
SB-21		(2-2.5)	3.51	42.8	0.61	<0.1	<0.5	NA
SB-21 (Duplicate)		(2-2.5)	10.5	43.9	0.54	<0.1	<0.5	NA

Notes:

NA - not analyzed

Values shown in bold exceed remediation criteria

Values shown in parentheses are duplicates